



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/817,141 | 04/02/2004 | John L. Stoffel | 200400537-1 | 1498 |
| 22879 | 7590 | 06/01/2006 | EXAMINER | |
| HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400 | | | CORDRAY, DENNIS R | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1731 | |

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|----------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/817,141 | STOFFEL ET AL. | |
| | Examiner Dennis Cordray | Art Unit 1731 | |

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-20 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 02 April 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 3 docs.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. ____ .
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: ____ .

DETAILED ACTION

Drawings

The drawings are objected to because the word “maching” in Figures 2 and 3 is misspelled, and the word “calendaring” is misspelled in Figure 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: on p 8, par 32, in the next to last line the word “polyhexylmethylbiguanadine” should be changed to “polyhexylmethylbiguanidine.”

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6,11-15 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyamoto et al (EP 1172224 A1).

Miyamoto et al discloses a recording material (printing paper) comprising a substrate and a polymeric polyguanidine salt (Abstract). The recording material can also contain an inorganic pigment, such as calcium carbonate, calcium sulfate, barium sulfate, calcium silicate and aluminum silicate (p 5, par 32), which are polyvalent metallic salts of group II or III metals. The polymeric polyguanidine salt is present in an amount from 0.01 to 10 g/m² (p 3, par 12). The polymeric polyguanidine salt can be added during the papermaking process to a paper made from a fibrous mixture or coated on the paper after manufacture (p 4, par 28). In the former case, the polymeric polyguanidine salt is intimately mixed with the fibers while the paper is formed. A

suitable use for the recording material is given as ink-jet printing (p 2, par 6). Paper recording materials are made using the polymeric polyguanidine salt on various papers (pp 7-9, pars 45-48, 51-54, 57-60).

Claims 1-3, and 5-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nigam (6291023 B1) as evidenced by Nigam (US 2003/0219539 A1).

Nigam discloses a coated paper for ink-jet printing that comprises a fibrous substrate, a guanidine polymer and a pigment, such as calcium carbonate (Abstract; col 1, line 66 to col 2, line 5; col 2, lines 55-67; Claims 22-24). The fibrous substrate can be partially or wholly saturated with the coating (col 2, lines 65-66). The coating composition is applied in an amount from 50 to 500 lb/ton of substrate (col 3, lines 5-9) and the guanidine polymer is 1-100% of the coating composition by weight, or from 0.5-500 lb/ton of substrate (col 6, lines 56-59). Using a conversion factor taught by Nigam (US 2003/0219539 A1) that a coating amount of 50-500 lb/ton of substrate (for ink-jet printing paper) is equivalent to about 2 to 30 g/m², derived (p 13, par 212), the coating of guanidine polymer is applied in an amount from about 0.02 to about 30 g/m², which significantly overlaps the claimed range. Examples are given of coating compositions having from 4.8-50% of guanidine polymer (corresponding to an application amount of 0.1 to 15 g/m²). In the same examples, the amount of pigment used is from 20-40% by weight (corresponding to an application amount of 0.4 to 12 g/m²) (col 19, Table 2). The exemplary ranges also significantly overlap the claimed ranges.

Nigam also discloses the claimed guanidine structures I and II (col 8, line 40 to col 9, line 20).

Nigam discloses a process wherein the coating composition is applied by any conventional coating process, including surface coating and saturation techniques. The coating can infiltrate the paper, thus can be disposed within the fibrous component of the substrate (col 13, lines 16-50). The substrates can be additionally treated (sized) before or after application of the coating composition, or the coating composition can be incorporated into an external sizing process so that sizing and coating are conducted in a single step (col 12, lines 59-67). Textiles suitable for the coating include those made from natural or synthetic fibers (col 12, lines 47-53). The steps of providing a fibrous component, providing the cationic guanidine polymer and metallic salt (pigment), and forming the substrate are inherent in the process. Introducing and mixing the cationic guanidine polymer and metallic salt with the substrate are performed by the coating process.

Nigam discloses printing media produced using the coating composition and used for ink-jet printing (cols 19-20, Example 3).

Claims 1-3, 6-13 and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Nigam (US 2003/0219539 A1).

Nigam discloses a coated paper for printing that comprises a fibrous substrate, a guanidine polymer and a pigment, such as calcium carbonate (Abstract; p 9, par 202). The fibrous substrate can be saturated with the coating (p 13, par 214), thus the

guanidine polymer and pigment are disposed within the fibrous component of the substrate. The coating amount is typically 2 to 30 g/m² (p 13, par 212) and the guanidine polymer is 5-95% of the coating composition by weight (p 9, par 151). Thus, the guanidine polymer is applied in an amount from 0.1 to 28.5 g/m², which significantly overlaps the claimed range. The coating can be applied to a paper substrate used in printing using any conventional process, including surface and saturation methods (p 13, par 214). Textiles suitable for the coating include those made from natural or synthetic fibers (p 13, par 211). The steps of providing a fibrous component, providing the cationic guanidine polymer and metallic salt (pigment), and forming the substrate are inherent in the process. Introducing and mixing the cationic guanidine polymer and metallic salt with the substrate are performed by the coating process.

Nigam also discloses the claimed guanidine structures I and II (p 8, pars 128-134).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al, Nigam ('023) or Nigam ('539) in view of Sumioka et al (US 2002/0140796 A1).

Art Unit: 1731

Miyamoto et al, Nigam ('023) and Nigam ('539) do not disclose that the metallic salt can be sodium chloride, aluminum chloride, calcium chloride, calcium nitrate or magnesium chloride.

Sumioka et al discloses an ink-jet printing paper having an ink-receptive layer comprising a cationic compound, a hydrazine and other additives (Abstract). The cationic compound assists in enhancing the water resistance and preservability after printing and is most effective if used as a cationic polymer combined with a water-soluble metallic compound, examples of which are given as calcium chloride and aluminum chloride (p 2, par 26; p 4, par 32; p 5, pars 36 and 42).

The art of Miyamoto et al, Nigam ('023), Nigam ('539), Sumioka et al and the instant invention are analogous as pertaining to the use of cationic polymers to enhance the printing ability of papers. It would have been obvious to one of ordinary skill in the art to use calcium chloride or aluminum chloride in the coating composition of Miyamoto et al, Nigam ('023) or Nigam ('539) in view of Sumioka et al to further enhance the water resistance and preservability of the printing.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure [Inoue et al (6412940 B1), Nigam (6478980 B2), Nigam (US 2003/0062506 A1), Nigam (US 2003/0219539 A1), Nigam et al (US 2004/0202832 A1)]. They pertain to other coatings for enhancing printing paper comprising cationic polymers and metallic salts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DRC


STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700